**Darbhanga College of Engineering, Darbhanga**

**EEE Department**

**B.Tech [SEM VIII (EEE)]**

**Mid. Sem Exam**

***(Session: 2017-18)***

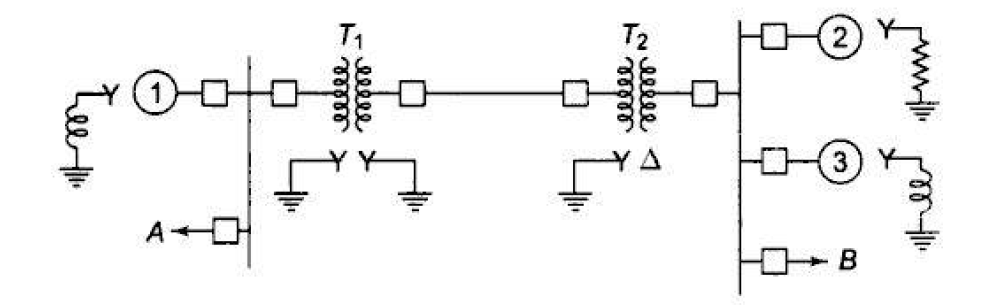
**Power System Design**

***Max. Marks: 20***

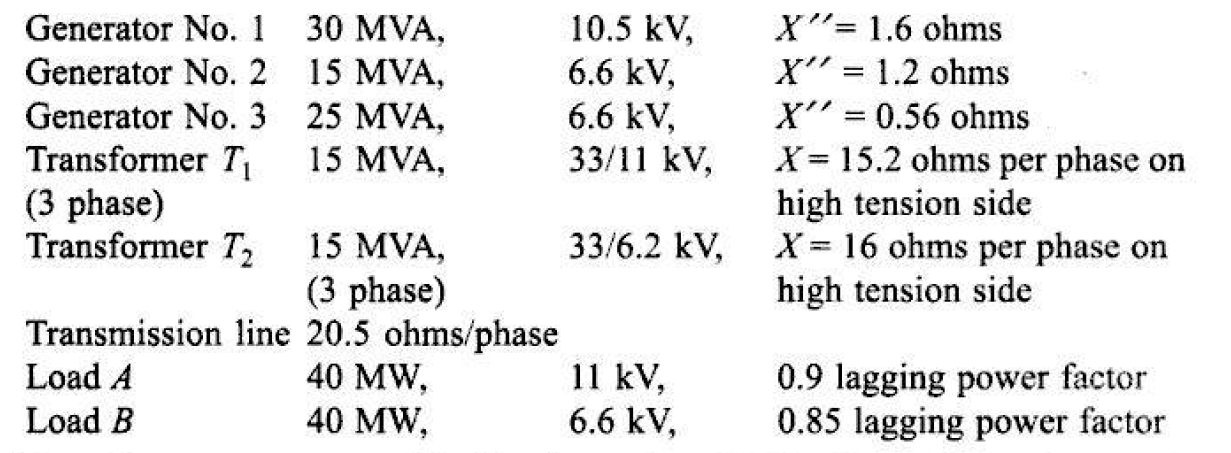
***Time:******2 Hours***

***Note: Attempt all question***

1. ***Draw per unit impedance diagram for the power system form its one line diagram given below in fig. 1 and the corresponding data is also given below. (6)***



***Fig. 1 One-line diagram of power system***



1. ***Describe advantages of using per unit representation in power system. Derive per unit representation of transformer. (4)***
2. ***Classify different types of buses in a load flow analysis.(4)***
3. ***For a particular power system there are N number of buses of which M-1 buses are load buses and remaining are generator buses. Describe the Gauss-Siedel algorithm for calculating load flow. (6)***